This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1.   (Currently Amended) A device for detection of straight-line segments in a stream of digital data which are supplied at a pixel frequency and which are representative of an image (m, n) in which the-a number of contour points of said-the image are identified, said-the device comprising:

means for storing the stream of digital data in the form of successive lines, each of n data items[[,]];

a buffer circuit comprising:

registers for successive reading of the digital data to be processed,

registers for storing the results of the processing of the digital data that are representative [[-]]of the-a number of coordinates of the-a number of extremity points and of the an orientation of the straight-line segments[[,]]; and

and-working registers[[,]];

a management module receiving a clock signal that is representative of the pixel frequency of supply of the digital data, said-the management module being linked to the storage means and to the buffer circuit and being adapted, on the one hand, to manage the-padding and the-processing at the pixel frequency of the digital data in the storage means, and on the other hand the-a reciprocal exchange of data between said-the storage means and the buffer circuit[[,]];

a programmed calculation module for performing-to perform tests intended-for the processing of the digital data in the reading registers[[,]]; and

and-a sequencer which receives a clock signal that is representative of the pixel frequency and which is adapted, as a function of the results supplied by the calculation module, to control the management module and the buffer circuit with a view-to the transfers-transfer of data between said-the buffer circuit and the storage means.

2.   (Currently Amended) The detection device as set forth in claim 1[[,]] wherein the storage means comprise three block memories each capable of storing a line of n digital data items, the management module being adapted to control a circular permutation of said-the memory blocks which is capable of permitting the storage of n data items in a block memory and simultaneously permitting the processing of the data contained in the other two block memories.

3.   (Currently Amended) The detection device as set forth in claim 1, said device-comprising:

a calculation module which receives the results stored in the storage registers and representative of the orientations of the straight-line segments detected and which is programmed to calculate the histogram of said-the orientations.

4.   (Currently Amended) A device for detection of straight line segments of an image, comprising:

a storage module configured to store a stream of data representing a plurality of successive lines of pixels of the image;

a calculation module configured to:

compare data representing first, second, third, and fourth pixels of the image[[,]];

determine, from the compared data, whether any of the first, second, third, and fourth pixels are contour point pixels of the image[[,]]; and;

in a case where there are two contour point pixels among the first, second, third, and fourth pixels,

determine whether the two contour point pixels conform to selected parameters, relative to each other; and

a sequencer module configured, in a case where the two contour point pixels conform to the selected parameters, to store location coordites-coordinates of the one of the two

contour point pixels that occurs earlier in the stream of data to a position in the stream of data representing the other of the two contour point pixels.

5. (Original) The device of claim 4, further comprising a buffer module configured to hold the data representing the first, second, third, and fourth pixels of the image during a calculation, and to hold data representing results of the calculation.

6. (Original) The device of claim 4 further comprising a memory configured to store the selected parameters.

7. (Original) The device of claim 4 further comprising a management module configured to provide a clock signal corresponding to a rate of flow of pixels in the stream of data.

8. (Original) The device of claim 4 further comprising an additional calculation module configured to calculate a histogram of straight line segments occurring in the image.

9. (Original) A device for detection of a straight line segment of an image, comprising:

means for selecting a first group of first, second, third, and fourth contiguous pixels of the image, the first and second pixels from a first line of pixels, the third and fourth pixels from directly beneath the first and second pixels, respectively, in a second line of pixels;

means for determining whether any of the first, second, third, or fourth pixels are contour point pixels of the image;

means for comparing, in a case where two of the first, second, third, and fourth pixels are contour point pixels, the two contour point pixels;

means for determining whether the two contour point pixels fall within selected parameters relative to each other; and

means for storing, at the location of the later occurring of the two contour point pixels, coordinates of the earlier occurring contour point pixel, if the two contour point pixels fall within the selected parameters relative to each other.

10.   (Original)   The device of claim 9, further comprising means for storing at the location of the earlier occurring of the two contour point pixels, coordinates of the later occurring contour point pixel, in the event that the two contour point pixels are the third and fourth pixels.

11.   (Original)   The device of claim 9 wherein the means for comparing are configured to compare the first pixel to the fourth pixel, the second pixel to the third pixel, the second pixel to the fourth pixel, and the third pixel to the fourth pixel.

12.   (Original)   The device of claim 9 wherein the means for selecting include means for selecting a second group of first, second, third, and fourth contiguous pixels of the image, wherein the first and third pixels of the second group are the same pixels as the second and fourth pixels, respectively, of the first group.